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THE DIPTEROUS GENUS SYMPYCNUM LOEW IN NORTH AMERICA AND THE WEST INDIES

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Buffalo, New York

(Continued from page 47)

SYMPYCNUM PUGIL Wheeler

Proc. Calif. Acad. Sci., Ser. 3, Zoöl., Vol. ii, 51, 1899. California; Washington.

Length, 2.5 mm. Face gray-pollinose; front dull green; palpi small, white-pollinose with a white bristle at tip; antennæ black, third joint small; lower orbital cilia white; thorax, scutellum, and abdomen dull metallic green, the former with thin gray pollen; abdomen a little yellow at base, its venter yellow; hypopygium large; coxæ, femora and tibiæ yellow; hind femora sometimes dark above; fore tarsi (Fig. 37) black from tip of first joint; middle tarsi (Fig. 38) yellow with tip of first and whole of last four joints black; hind tarsi (Fig. 39) black from tip of first joint; joints of fore tarsi as 24-6-5-5-6; of middle ones as 28-15-12-5-5; joints of posterior pair as 20-20-13-10-7; fore pulvilli much enlarged; wings narrowed at base; fourth vein ending in apex of wing; last section of fifth vein as 22, cross-vein as 17; calypters, their cilia and the halteres yellow.

Sympycnus pulvillus Van Duzee, new species

Male. Length, 2 mm. Face silvery white, narrowed below; front brown; occiput green, dulled with white pollen; antennæ (Fig. 18) black, third joint as long as wide, pointed at tip; lateral and inferior orbital cilia white.

Dorsum of thorax green with only a little gray pollen; pleuræ more blackish, with white pollen, depressed space before the scutellum quite conspicuous; abdomen green with coppery reflections on the base of the segments beyond second, its hair black; hypopygium (Fig. 20) small, inconspicuous, black, with very small, black appendages.

Coxæ black with yellow tips; fore coxæ with white hair; hair on middle and hind ones and bristles on posterior pair yellow; fore femora greenish black with yellow tip, their lower surface with several long hairs and two bristles near tip; middle femora wholly yellow; hind femora yellow with apical third metallic black, the black extending along upper edge nearly to base; all tibiæ yellow,

posterior ones brown on apical third; bristles of middle and hind tibiae strong; fore tarsi (Fig. 19) yellow with rather long hair, last joint black, a little flattened and widened, their pulvilli white, each a little smaller than the fifth joint; middle tarsi brown almost to base, hind ones wholly black; joints of fore tarsi as 16-6-6-5-5; fifth joint as 3 wide and pulvilli as 4 long; joints of middle tarsi as 22-11-10-6-6; of posterior ones as 19-16-11-7-7. Calypters, their cilia and the halteres yellow, the former with a black tip.

Wings grayish, a little narrowed toward their root; last section of fourth vein a little bent before basal third, its tip before the apex of wing; last section of fifth vein as 34, cross vein as 11.

Described from five males; two were taken by J. M. Aldrich at Tennessee Pass, Colorado, holotype July 11, at 10,240 feet elevation, the paratype July 23, 1917; three paratypes were taken by the author at Mill Valley, Marin County, California, March 25, 1926. Type in the United States National Museum.

The Tennessee Pass paratype may represent another species; it differs from the other type in having the fore coxae almost wholly yellow, fore femora less blackened; the fore tarsi are missing, but the joints of middle and hind tarsi are in about the same proportion as in holotype. The Mill Valley paratypes are in such shape as to conceal the hypopygial appendages, the abdomen appearing obtusely pointed at tip; in one there is a slender, black lamella showing, which is fringed with hair. The drawing of the antenna is from a Mill Valley paratype and the hypopygium from the holotype.

SYMPYCNUM SETOSUM Van Duzee, new species

Male. Length, 3 mm. Face silvery white, narrow below; palpi brown; front blackish with gray pollen; antennae (Fig. 26) black or brown, third joint as long as wide.

Thorax blackish with purple reflections, dulled with gray pollen; acrostichal bristles represented by several very minute hairs; abdomen cylindrical, reddish coppery with blue or purple bands at base of segments, its hairs minute, black; hypopygium colored like the abdomen, its lamellae small, white with two black filaments or bristles which are twice as long as the lamellae and extend the length of the lamellae beyond them.

Coxae black, anterior pair with extreme tip yellow, front surface with very small, black hairs and several black bristles at tip; trochanters, femora and tibiae yellow; fore tibiae without bristles; middle ones with two rather small ones; hind tibiae with several very small bristles; fore and middle tarsi yellow, a little darker at tip; hind tarsi (Fig. 27) black with first joint yellow at base, third joint thick

with a stout bristle at tip and several smaller ones on one side, first joint with small, erect spines below, these are not much more than stout hairs and are continued on the next joint, but are still more hair-like; fore pulvilli a little enlarged; fore and middle tarsi plain; joints of fore tarsi as 23-10-6-5-5; of middle ones as 38-12-7-5-6; joints of posterior pair as 25-21-10-9-7, bristle at tip of third joint as 6. Calypters whitish at base, black at tip with black cilia; halteres yellow.

Wings grayish. They are crumpled and broken in both type specimens.

Described from two males, taken by the author June 11, 1915, at Victor, Colorado, at about 10,000 feet elevation. Type in the author's collection.

This is something like *calcaratus*, new species, in the form and color of the hypopygial lamellæ, but the lamellæ are very long in that species and very short in this; the abdomen in *calcaratus* is enlarged below at tip in this cylindrical and slightly tapering to the tip; the third antennal joint is smaller in this and hind tarsi much more spiny, especially the third joint.

SYMPYCNUM TERTIANUM Loew

Monog., North American Diptera, Vol. ii, 187, 1864. Alaska.

Male. Length, 2.5 mm. Face grayish; palpi and first two antennal joints yellow; third antennal joint black, rounded; thorax and abdomen grayish green, rather dull; thorax without lines; posterior margin of pleuræ pale yellow; venter of abdomen wholly yellow; outer lamellæ lancet-shaped, of rather dark color; coxæ, femora and tibiæ pale yellow; tarsi blackish from tip of first joint; joints of fore tarsi of decreasing length in the female, in male the third and fourth joints are of nearly equal length; joints of middle tarsi of decreasing length in both sexes; first joint of hind tarsi a little shorter than second and in the male the third joint is somewhat shorter than fourth, fourth with longer hairs at tip; wings much narrowed at base; fourth vein ends a little before the apex of the wing; cross vein at the middle between root and apex of wing.

Sympycnus thoracicus Van Duzee, new species

Male. Length, 2.5 mm. Eyes contiguous, reducing the face to a very narrow line of white on upper half; front black with white pollen, narrow; antennæ black, third joint very small, triangular.

Dorsum of thorax and scutellum very bright green, the former with golden reflections; pleuræ brown, largely yellowish; abdomen cylindrical, black with first and second segments reddish yellow, its hairs yellow, those on venter as long as thickness of abdomen; hypopygium (Fig. 6) black, small, its outer lamellæ long and narrow, black; also a pair of small, hook-like inner appendages.

Coxæ, femora, tibiæ and tarsi yellow, last joint of middle tarsi black; all tarsi plain, except that the fore tarsi are very slender and have long hair on all joints, many of them three times as long as diameter of the joint, their pulvilli very large; joints of fore tarsi as 25-15-8-6-6; of middle ones as 28-15-12-9-7; joints of posterior ones as 18-23-14-9-6. Calypters yellow with black tips and cilia; halteres yellow.

Wings grayish; third and fourth veins parallel and a little arched, tip of fourth back of apex of wing; last section of fifth vein as 27, cross vein as 17; anal angle of wing prominent.

Described from one male taken at St. Vincent, West Indies, at 1500 feet elevation. Type No. 33, Arkansas University collection.

***Sympycnus tripilus* Van Duzee, new species**

Male. Length, 2-2.5 mm. Face silvery white, narrow below, its sides parallel on lower two-thirds; palpi small yellow; proboscis yellowish brown; front black in middle, shining green on sides; antennæ (Fig. 21) black, third joint large, nearly twice as long as wide, rounded at tip; lower orbits nearly bare, a few black cilia above.

Thorax metallic brown with green reflections and brown pollen; acrostichal bristles rather long, in a single row; pleuræ white-pollinose, its posterior edge yellow; abdomen brown above, venter, most of second segment and sides of others yellow; hairs on dorsum black, bristles on sides of first segment yellow; hypopygium greenish black, its outer appendages narrow, short, yellow.

All coxæ yellow; fore coxæ with a few small yellow hairs, these become longer and more bristle-like toward the tip; femora and tibiæ yellow, posterior femora and tibiæ more or less brown at tip; fore tibiæ without bristles, middle ones with three, hind tibiæ with several rather small bristles; fore and middle tarsi yellow at base, brown apically, hind ones wholly brown; middle tarsi (Fig. 22) with three long, curved hairs on anterior surface of second joint, and a short, straight one near tip, first joint with several very small spines, second and third joints with a small spine at tip, third and fourth joints each with a long hair, fifth with long hairs above, but these are not longer than in some other species; joints of fore tarsi as 19-13-8-6-5; of middle ones as 32-10-7-6-5; joints of posterior pair as 15-20-12-8-7. Calypters, their cilia and the halteres yellow.

Wings grayish; last section of fourth vein straight, nearly parallel with third, ending in the apex of the wing; last section of fifth vein as 25, cross vein as 9; wing narrowed at base.

Female. Face white, wide; proboscis yellow; base of hind tarsi yellow; abdomen more brown or yellowish brown; otherwise about as in the male. Sometimes the antennæ are brown or yellowish brown.

Described from eleven males and four females, taken by the author, April 15, 1915, in San Diego County, California, on the edge of the Colorado Desert. Type in author's collection.

SYMPYCNUM VARIPES Aldrich

Biologia, Diptera, Vol. i, 344, 1901. Mexico.

Male. Length, 2.6 mm. Face and front brown pollinose; antennæ black, short; dorsum of thorax opaque gray with a brown, median line and the bristles inserted in brown dots; scutellum bright blue; abdomen bronze green with anterior part of each segment purplish, abdomen without yellow; fore coxæ, all femora and tibiæ yellow, tip of hind femora and tibiæ and whole of hind tarsi blackish; fore tarsi yellow with last joint black and enlarged; middle tarsi yellow with tips of first four joints and whole of last joint blackish; middle coxæ with white hairs in front, hind ones with one blackish bristle; fore pulvilli enlarged; first and second joints of hind tarsi of nearly equal length; wings grayish; moderately narrowed at base; fourth vein ending in apex of wing.

KEY TO MALES OF THE SPECIES OF THE SUBGENUS

CALYXOCHÆTUS

1. Fore tibiæ considerably incrassated; second joint of fore tarsi with a long slender bristle or hair at tip..... 2
- Fore tibiæ not or but little incrassated..... 3
2. Arista quite thick, gradually, but considerably enlarged toward tip; Figs. 43-46 (New England States; New York; Pennsylvania; New Jersey; Ontario).....*fortunatus* Loew
- Arista slender with a conspicuous, lamella at tip; Figs. 47-49 (California)*vegetus* Wheeler
3. Fourth joint of fore tarsi distinctly longer than third..... 4
- Fourth joint of fore tarsi shorter than third..... 5
- Fore tarsi with third and fourth joints of nearly equal length 7
4. Arista plain; fourth joint of fore tarsi with hooked hairs or bristles above; Figs. 50-52 (Maine; Massachusetts; New York; Pennsylvania; Indiana).....*frontalis* Loew
- Arista gradually but considerably enlarged on apical fifth; Figs. 53-55 (Utah).....*distortus* new species
- Arista with a large, nearly round lamella at tip; Figs. 56-58 (Colorado; Alaska).....*cilifemoratus* Van Duzee
5. Fourth joint of fore tarsi about half as long as third (California)*æreas* Wheeler
- Fourth joint of fore tarsi much more than half as long as third 6
6. Second joint of middle tarsi with several long hairs on basal half; Figs. 59-61 (Maine; Ontario).....*luteipes* Van Duzee

- Tarsi plain, without unusual hairs (Kansas).....*abbreviatus* Van Duzee
- 7. Third joint of middle tarsi a little longer than fifth, fourth and fifth of equal length; Figs. 66-69 (Illinois; Wisconsin; Missouri; New York; Ontario).....*nodatus* Loew
- Third and fourth joints of middle tarsi each much longer than fifth; Figs. 62-65 (California).....*clavicornis* new species
- Third and fourth joints of middle tarsi each much shorter than fifth..... 8
- 8. Apical enlargement of arista slight, occupying only apical third; Figs. 70-72 (Idaho; California).....*sobrinus* Wheeler
- Enlargement of arista quite conspicuous, occupying most of apical half; Figs. 73-75 (California).....*hastatus* new species

SYMPYCNUM (CALYXOCHÆTUS) ABBREVIATUS Van Duzee

Canadian Entomologist, Vol. xlix, 341, 1917. Kansas.

Male. Length, 3 mm. Face narrow, silvery white; palpi yellowish; proboscis brown; front blue with thick brown pollen; antennæ brown, third joint large, nearly as wide as long, somewhat square with rounded corners; dorsum of thorax brown, nearly opaque; abdomen yellowish at base, black from hind margin of second segment, bronzed at tip; coxæ yellow, anterior ones with minute yellow hairs and yellow bristles at tip; middle and hind coxæ with a black bristle on outer surface; all femora and tibiæ yellow, hind femora and tibiæ darkened at tip, the latter with a rather long, slender bristle near basal third; fore tarsi yellow, darkened at tip, first joint not longer than thick, second more than half as long as tibia, third a little longer than fourth, which is scarcely longer than fifth; hind tarsi black from tip of first joint, which is shorter than second; wings grayish, rather narrow at base; veins yellowish brown, costa darker; fourth vein ending in apex of wing; last section of fifth vein three times as long as cross vein.

SYMPYCNUM (CALYXOCHÆTUS) CILIFEMORATUS

Van Duzee

Proc. U. S. National Museum, Vol. lxxiii, Art. 21, 12, 1924.
Colorado; Alaska.

Male. Length, 2.5-3 mm. Face narrow below, covered with white pollen; front blackish or blue with brown pollen; antennæ (Fig. 56) black; thorax bronze brown with brown pollen and blue reflections; abdomen dark metallic green, bristles on first segment yellow; hypopygial appendages small, black; all coxæ, femora and fore and middle tibiæ yellow, apical half of hind femora more or less blackish; hind tibiæ blackish, sometimes yellowish at base; fore coxæ and fore and middle tibiæ with yellow hairs; fore tarsi (Fig. 57) and middle tarsi (Fig. 58) black from tip of first joint; hind tarsi wholly black; joints of fore tarsi as 3-29-8-11-7; of middle ones as 34-14-

11-10-5; those of posterior pair as 18-23-14-11-8; wings narrowed at base; third and fourth veins a very little convergent at tips, fourth ending just before the apex of wing; last section of fifth vein as 31, cross vein as 10; calypters, their cilia and the halteres yellow.

Sympycnus (Calyxochætus) clavicornis Van Duzee
new species

Male. Length, 2.5 mm. Face narrow, eyes touching below, black with white pollen; front blackish; palpi black; antennæ (Fig. 62) brown, first joint long, third as long as first, slightly more than half as wide as long, tip broadly rounded, arista inserted at tip of third joint, gradually much widened on apical fourth.

Thorax and abdomen dark brown, shining, dorsum of thorax with brown pollen, which leaves darker lines; scutellum a little bluish; posterior edge of pleuræ partly yellowish; sides of second abdominal segment wholly yellow, remaining segments slightly tinged with green; hypopygium (Fig. 65) brown, with very small, triangular, yellow lamellæ, a pair of large inner lamellæ and a long, smooth, curved, yellow central organ; hairs of abdomen partly yellowish.

Coxæ, femora and tibiæ yellow; fore coxæ with a few white hairs; middle and hind coxæ a little darkened on outer surface; nearly apical fourth of hind femora brown; hind tibiæ more or less brownish, especially at tip and with several long pale hairs below near tip; fore tarsi (Fig. 63) brown from tip of second joint; middle tarsi (Fig. 64) brown at tip, second joint enlarged and with several long, delicate hairs below; hind tarsi wholly blackish; joints of fore tarsi as 4-21-9-10-7; of middle ones as 30-11-10-8-5; joints of posterior pair as 20-23-14-11-7. Calypters, their cilia and halteres yellow.

Wings grayish; third and fourth veins nearly straight and parallel, fourth ending distinctly before the apex of wing; last section of fifth vein 45, cross vein ten-fiftieths of a millimeter long.

Female. Face moderately wide, covered with white pollen; front blue-black; palpi brown; third antennal joint nearly round in outline; lower orbital cilia white; abdomen a very little yellowish on the sides at base; joints of fore tarsi as 20-15-9-6-6; of middle ones as 33-12-10-8-7; those of posterior pair as 21-21-14-9-9; wings with third and fourth veins a little farther apart than in male, fourth ending in apex of wing; last section of fifth vein 48, cross vein 14; legs almost wholly yellow, tarsi a little brownish.

Described from two males and one female, taken by J. M. Aldrich, July 23, 1911, at Mono Lake, California. Type in the United States National Museum.

Sympycnus (Calyxochætus) distortus Van Duzee
new species

Male. Length, 2mm. Antennæ (Fig. 53) brown, third joint rounded, but little longer than wide, arista as long as fore tarsi, apical fifth gradually but considerably enlarged.

Thorax and abdomen brown, the former with a little brown pollen; second segment of abdomen largely yellow; hypopygium about as in *clavicornis*, rounded above with small, triangular, yellowish outer lamellæ, which are not longer than wide, inner appendages rounded.

Coxæ, femora and tibiæ yellow; tips of posterior femora and tibiæ brownish; fore coxæ with a few short white hairs; hind femora with black hairs below, which are short at base, long near tip; fore tarsi (Fig. 54) yellow with last joint brown, third joint shorter than fourth, which is curved and has a few long hairs; middle tarsi (Fig. 55) yellow with last three joints brown, first joint with one long hair near tip, second with about four long hairs on basal half; hind tarsi wholly brown; joints of fore tarsi as 3-23-9-13-7; of middle ones as 30-13-12-9-5; joints of posterior pair as 20-24-14-10-8. Calyp- ters, their cilia and the halteres yellow.

Wings grayish; third and fourth veins nearly parallel, but bent back and slightly approaching each other at tip, fourth ending just in front of apex of wing; cross vein about as 6, last section of fifth vein as 35.

Described from one male, taken by J. M. Aldrich, July 6, at Soldier Summit, Utah, at 7454 feet elevation. Type in the United States National Museum.

SYMPYCNUM (CALYXOCHÆTUS) FORTUNATUS Wheeler

Proc. Calif. Acad. Sci., Ser. 3, Zoöl., Vol. ii, 52, 1899. Northeastern States; Ontario.

Male. Length, 3.3 mm. Face very narrow, light gray-pollinose; front violet; antennæ (Fig. 43) dark brown; thorax dull black, covered with brown pollen, except a median vitta and spots above the humeri; scutellum violet; abdomen brownish black, base of first, second and third segments and the venter pale yellow; all coxæ and femora pale yellow; fore coxæ with silvery white hairs; posterior femora brown on apical third; all tibiæ pale yellow, tips of hind ones blackish; fore tibiæ and tarsi (Fig. 44), the tarsi black from middle of second joint; middle tarsi (Figs. 45 and 46) blackish from tip of first joint; hind tarsi wholly black; length of fore tibiæ as 43, joints of fore tarsi as 5-25-18-7-7; of middle tarsi as 43-11-5-8-7; joints of posterior pair as 23-29-15-10-7; wings much narrowed at base with a lobe basally from tip of fifth vein; third and fourth veins nearly parallel, but slightly arched; last section of fifth vein as 40, cross vein as 10.

SYMPYCNUM (CALYXOCHÆTUS) FRONTALIS Loew

Neue Beit., Vol. viii, 67, 1861; Monog. N. Am. Diptera, Vol. ii, 188, 1864. Northeastern States.

Male. Length, 3 mm. Face very narrow below, covered with white pollen so as to nearly conceal the blue ground color; front bright violet; antennæ (Fig. 50) black or brown; dorsum of thorax green or blue with thick grayish brown pollen; abdomen black or greenish black with more or less yellow, especially on the sides; posterior margin of pleuræ, all coxæ, femora, tibiæ and tarsi yellow, tarsi more or less infuscated; fore tarsi (Fig. 51) with its joints as 4-20-9-14-6; middle tarsi (Fig. 52) with its joints as 40-14-4-4-7; those of posterior tarsi as 19-24-14-11-6; wings with third and fourth veins nearly straight and parallel, fourth ending in apex of wing; last section of fifth vein as 32, cross vein as 13; calypters, their cilia and the halteres yellow.

Sympycnus (Calyxochætus) hastatus Van Duzee
new species

Male. Length, 3 mm. Face narrow, white; front purple, shining, except a narrow margin of white pollen along the orbits and above the antennæ; antennæ (Fig. 73) black, third joint more brown, rounded at tip, arista rather short, its first two joints as 22-28, third joint widened before its middle, but pointed at tip; lower orbital cilia white.

Thorax green, dull, scutellum blue. Abdomen dull green, second and third segments yellow, except a median dorsal line, which widens at the sutures, its hair black; hypopygium black, pointed below, with a pair of short, pale lamellæ, fringed with black hair.

Fore coxæ yellow with minute yellow hair; middle and hind coxæ black with yellow tips; femora and tibiæ yellow, posterior femora on apical half, especially above, and extreme tips of hind tibiæ brown; fore tarsi (Fig. 74) yellow, darker toward tip; middle tarsi (Fig. 75) yellowish brown; posterior tarsi black from tip of first joint; joints of fore tarsi as 4-29-14-14-7; of middle ones as 50-12-4-5-8; joints of posterior pair as 22-27-15-10-5. Calypters yellow with black tip and pale cilia; halteres yellow.

Wings grayish; third and fourth veins nearly parallel, the latter ending in apex of wing; cross vein 12, last section of fifth vein 43-fiftieths of a millimeter long; sixth vein short; wing not much narrowed at base.

Described from one male taken by the author, April 15, 1915, in San Diego County, California, on the edge of the Colorado Desert. Type in the author's collection.

SYMPYCNUM (CALYXOCHÆTUS) LUTEIPES Van Duzee

Psyche, Vol. xxx, 63, *tarsalis*, Curran, Canadian Entomologist, Vol. lvi, 108, 1924. Maine; New York; Ontario.

Male. Length, 2 mm. Face narrow, white; front dark blue; antennæ (Fig. 59) black or brown; dorsum of thorax brown, a little

dulled with brown pollen; scutellum blue; posterior edge of pleuræ yellow; abdomen with yellow on the sides; all coxæ, femora and fore and middle tibiæ yellowish; tips of hind femora and the hind tibiæ more brown or black; fore tarsi (Fig. 60) yellow, blackened from tip of third joint; middle tarsi (Fig. 61) black from tip of first joint; hind tarsi wholly black, shorter than their tibia; joints of fore tarsi as 4-16-10-6-5; of middle ones as 31-10-9-8-5; those of posterior pair as 14-16-9-8-6; wings brownish gray, narrowed at base; last section of fifth vein nearly four times as long as cross vein; calypters and halteres yellow, former with black cilia.

SYMPYCNUM (CALYXOCHÆTUS) NODATUS Loew

Loew's Cent., Vol. ii, No. 68, Berl. Ent. Zeit., Vol. vi, 215, 1862; Monog. North American Diptera, Vol. ii, 191, 1864. Arkansas; New York; Illinois; Missouri; Wisconsin; Ontario.

Male. Length, 2.5-3 mm. Face very narrow, white; front brown with a little gray pollen; palpi small, yellow; antennæ (Fig. 66) brown, first joint yellow below or wholly yellow; dorsum of thorax brownish gray; posterior margin of pleuræ yellow; scutellum usually blue; abdomen metallic black, yellow on sides and venter; hypopygial appendages black, outer lamellæ yellowish; coxæ, femora and tibiæ yellow; fore tarsi (Fig. 67) yellow, apical joints black; middle tarsi (Figs. 68 and 69) black from tip of first joint; hind tarsi with last four joints black; joints of fore tarsi as 4-18-10-8-8; of middle ones as 45-15-7-5-6; of posterior pair as 20-29-15-11-8; wings narrowed at base, hind margin a little sinuous on basal half; last section of fourth vein straight, ending in apex of wing, nearly parallel with third, but third bent back a little so as to approach fourth at tip; last section of fifth vein as 42, cross vein as 13; calypters yellow with black tip, its cilia yellow, but appearing blackish in certain lights; halteres yellow.

SYMPYCNUM (CALYXOCHÆTUS) OREAS Wheeler

Proc. Calif. Acad. Sci., Ser. 3, Zoöl., Vol. ii, 55, 1899. California.

Male. Length, 3 mm. Face very narrow, gray pollinose; proboscis and palpi brown; front green; antennæ blackish, third joint large, oval, evenly rounded, arista basal; long, tapering to a point; thorax and scutellum green, thickly covered with yellow pollen, especially in front, leaving a median shining vitta; abdomen dull blackish, sides and venter partly yellow; fore coxæ yellow with white hairs, middle and hind coxæ blackish; femora and tibiæ yellow, apical half of hind femora and tips of their tibiæ blackened; fore tibiæ dis-

tinctly swollen; all tarsi black from tip of first joint; first joint of fore tarsi very short, second and third much longer and subequal, fourth and fifth subequal and about half as long as third, third and fourth joints fringed above with long hair; first joint of hind tarsi distinctly broader and shorter than second; wings much narrowed at base, somewhat truncate at apex; last section of fourth vein parallel with third on its apical half, ending in or a little before apex of wing; last section of fifth vein more than three times as long as cross vein; calypters yellow with brown border and yellow cilia; halteres yellow.

SYMPYCNUM (CALYXOCHÆTUS) SOBRINUS Wheeler

Proc. Calif. Acad. Sci., Ser. 3, Zoöl., Vol. ii, 54, 1899. Idaho; California.

Male. Length, 2.5-3 mm. Face rather broad, white; front green; antennæ (Fig. 70) black; thorax greenish, nearly opaque with brown pollen; scutellum blue; abdomen blackish, sometimes the sides yellow at base, venter yellowish; hypopygial lamellæ very small, yellowish; fore coxæ yellow with a few yellow hairs and bristles; middle and hind coxæ mostly black; femora and tibiæ dark yellow, hind femora blackish apically; tarsi infuscated from tip of first joint; fore tarsi (Fig. 71) with their joints as 4-21-13-12-8; middle tarsi (Fig. 72) with the joints as 45-15-4-6-9; joints of posterior tarsi as 21-26-15-10-9; wings with anal angle prominent; third and fourth veins nearly parallel, but bent backward toward their tips; last section of fifth vein as 44, cross vein as 12; fourth vein ending in the apex of the wing; calypters, their cilia and the halteres yellow, sometimes the cilia of the calypters is more brown.

SYMPYCNUM (CALYXOCHÆTUS) VEGETUS Wheeler

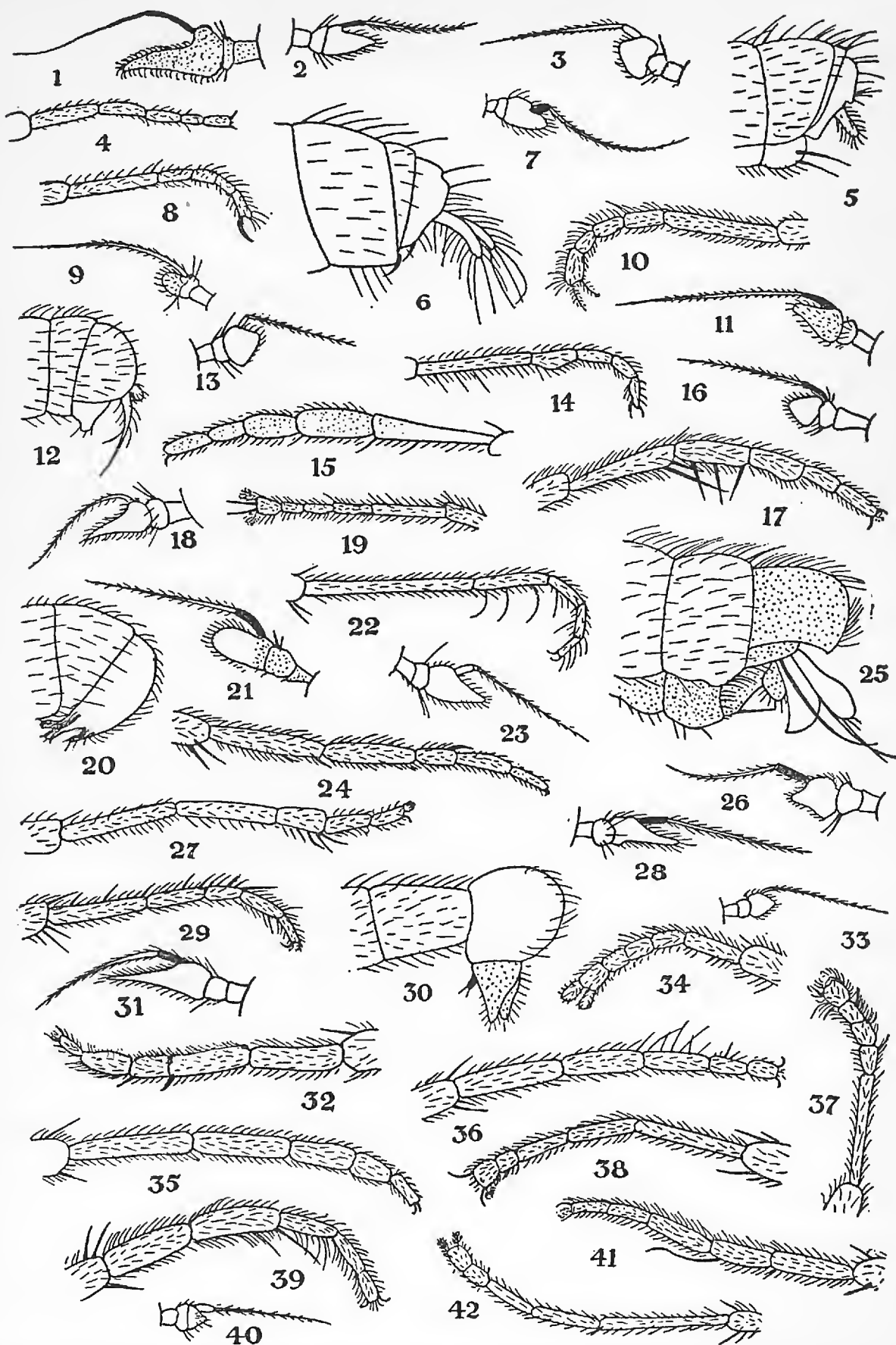
Proc. Calif. Acad. Sci., Ser. 3, Zoöl., Vol. ii, 53, 1899. Idaho; California; Oregon.

Male. Length, 2.5-3.3 mm. Face very narrow, white-pollinose; front violet; antennæ (Fig. 47) black; palpi blackish; thorax dull green or blackish with coppery reflections; scutellum blue; abdomen bronze-black with yellow on sides and venter; hypopygial lamellæ small, yellowish brown; coxæ, femora and fore and middle tibiæ yellow; tips of hind femora and whole of hind tibiæ brown; fore tibiæ and tarsi (Fig. 48); middle tarsi (Fig. 49), black from tip of first joint; hind tarsi wholly black; joints of fore tarsi as 4-22-17-8-7; of middle tarsi as 39-15-4-5-6; of posterior pair as 25-27-16-11-8; wings narrowed at base; third vein greatly bent backward at tip, parallel with fourth, which ends in apex of wing; last section of fifth vein as 55, cross vein as 12; calypters, their cilia and the halteres yellow.

EXPLANATION OF PLATE 1

North American species of *Sympycnus*

- Fig. 1. *cuprinus* Wheeler, antenna of male.
Fig. 2. *lineatus* Loew, antenna of male.
Fig. 3. *breviventris* n. sp., antenna of male.
Fig. 4. *breviventris*, fore tarsus of male.
Fig. 5. *breviventris*, hypopygium of male.
Fig. 6. *thoracicus* n. sp., hypopygium of male.
Fig. 7. *clavatus* V. D., antenna of male.
Fig. 8. *clavatus*, fore tarsus of male.
Fig. 9. *lævigatus* n. sp., antenna of male.
Fig. 10. *lævigatus*, fore tarsus of male.
Fig. 11. *inæqualis* n. sp., antenna of male.
Fig. 12. *inæqualis*, hypopygium of male.
Fig. 13. *caudatus* V. D., antenna of male.
Fig. 14. *caudatus*, fore tarsus of male.
Fig. 15. *latitarsis* n. sp., antenna of male.
Fig. 16. *latitarsis*, fore tarsus of male (top view).
Fig. 17. *latitarsis*, fore tarsus of male (side view).
Fig. 18. *pulvillus* n. sp., antenna of male.
Fig. 19. *pulvillus*, fore tarsus of male.
Fig. 20. *pulvillus*, hypopygium of male.
Fig. 21. *tripilus* n. sp., antenna of male.
Fig. 22. *tripilus*, mid tarsus of male.
Fig. 23. *calcaratus* n. sp., antenna of male.
Fig. 24. *calcaratus*, hind tarsus of male.
Fig. 25. *calcaratus*, hypopygium of male.
Fig. 26. *setosus* n. sp., antenna of male.
Fig. 27. *setosus*, hind tarsus of male.
Fig. 28. *globulicauda* n. sp., antenna of male.
Fig. 29. *globulicauda*, hind tarsus of male.
Fig. 30. *globulicauda*, hypopygium of male.
Fig. 31. *fasciventris* V. D., antenna of male.
Fig. 32. *fasciventris*, hind tarsi of male.
Fig. 33. *mercedus* Wheeler, antenna of male.
Fig. 34. *mercedus* Wheeler, fore tarsus of male.
Fig. 35. *mercedus*, hind tarsus of male (side view).
Fig. 36. *mercedus*, hind tarsus of male (top view).
Fig. 37. *pugil* Wheeler, fore tarsus of male.
Fig. 38. *pugil*, mid tarsus of male.
Fig. 39. *pugil*, hind tarsus of male.
Fig. 40. *aldrichi* n. sp., antenna of male.
Fig. 41. *aldrichi*, hind tarsus of male.
Fig. 42. *montanus* n. sp., mid tarsus of male.

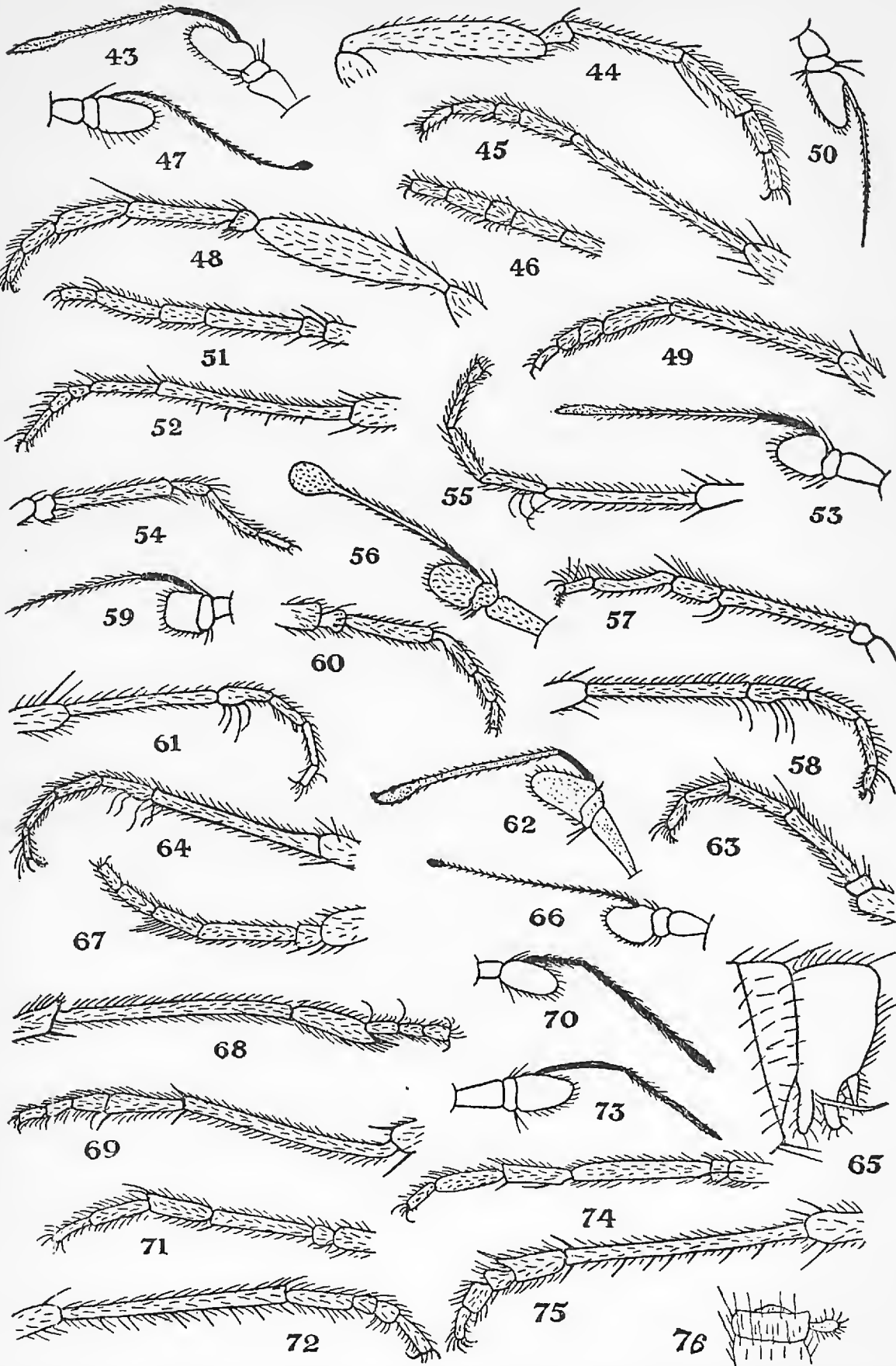


M. C. Van Duzee, Plate I

EXPLANATION OF PLATE 2

North American species of *Sympycnus*, subgenus *Calyxochætus*

- Fig. 43. *fortunatus* Wheeler, antenna of male.
- Fig. 44. *fortunatus*, fore tibiæ and tarsus of male.
- Fig. 45. *fortunatus*, mid tarsus of male (top view).
- Fig. 46. *fortunatus*, last four joints of mid tarsus (bottom view).
- Fig. 47. *vegetus* Wheeler, antenna of male.
- Fig. 48. *vegetus*, fore tarsus of male.
- Fig. 49. *vegetus*, mid tarsus of male.
- Fig. 50. *frontalis* Loew, antenna of male.
- Fig. 51. *frontalis*, fore tarsus of male.
- Fig. 52. *frontalis*, mid tarsus of male.
- Fig. 53. *distortus* n. sp., antenna of male.
- Fig. 54. *distortus*, fore tarsus of male.
- Fig. 55. *distortus*, mid tarsus of male.
- Fig. 56. *cilifemoratus* V. D., antenna of male.
- Fig. 57. *cilifemoratus*, fore tarsus of male.
- Fig. 58. *cilifemoratus*, mid tarsus of male.
- Fig. 59. *luteipes* V. D., antenna of male.
- Fig. 60. *luteipes*, fore tarsus of male.
- Fig. 61. *luteipes*, mid tarsus of male.
- Fig. 62. *clavicornis* n. sp., antenna of male.
- Fig. 63. *clavicornis*, fore tarsus of male.
- Fig. 64. *clavicornis*, mid tarsus of male.
- Fig. 65. *clavicornis*, hypopygium male.
- Fig. 66. *nodatus* Loew, antenna of male.
- Fig. 67. *nodatus*, fore tarsus of male.
- Fig. 68. *nodatus*, mid tarsus of male (top view).
- Fig. 69. *nodatus*, mid tarsus of male (side view).
- Fig. 70. *sobrinus* Wheeler, antenna of male.
- Fig. 71. *sobrinus*, fore tarsus of male.
- Fig. 72. *sobrinus*, mid tarsus of male.
- Fig. 73. *hastatus* n. sp., antenna of male.
- Fig. 74. *hastatus*, fore tarsus of male.
- Fig. 75. *hastatus* n. sp., mid tarsus of male.
- Fig. 76. *Sympycnus canadensis* V. D., hypopygium of male.



M. C. Van Duzee, Plate II